slender it is not characteristically sharp pointed. The upper mandible is much more curved than normally, probably from lack of the support of the lower mandible, and in place of the normal sharp, chisel-shaped point, the tip much more resembles that of a snipe's bill.

Where the edges of the mandibles meet at the crossing they are worn to a slight notch.

It would be interesting to know whether this bird subsisted entirely on fruit and seeds, which normally form a large percentage of the food of the species, or whether it was fed by the mate, with insects. Obviously this bill was not adapted to obtaining insects for itself in the usual manner. Unfortunately the bird's stomach when procured was empty. The stomach of the female contained the remains of a dragonfly.

SOME NOVA SCOTIA BIRDS.

BY SPENCER TROTTER.

THE peninsula of Nova Scotia has a ragged coast-line; the land is deeply invaded by the sea through many fiord-like inlets. Four rocky headlands, scarred and worn, alternate with stretches of sand and shingle; bowlder-strewn ledges fringe the shores and submarine banks reach far seaward. These sands seem to have impressed the early French explorers who gave the name "Sable" to the southern cape of the peninsula, as well as to a river and also to a group of low islands which lie at some distance off the eastern coast. The edge of the great Atlantic fog bank hovers over these shores, and creeping in with the southerly wind wraps the land in its gloomy mists, often for days at a time.

Back of this coast the voyager along the southern shores sees a land of pointed trees — spruce and balsam fir — rising into a low ridge that is succeeded inland by other similar ridges; a vast, unbroken stretch of evergreen wilderness from shore to shore

across the peninsula, with wide savannas of sphagnum bog, swampy jungles of alder and tamarack, rocky 'barrens' covered by a growth of dwarf blueberry, and here and there, in the hollows between the ridges, the waters of a glacial lake. Many streams head in the bogs on the low divides, their waters dark with the leachings of the peat, and flow west toward the Bay of Fundy and east into the long inlets of the Atlantic. They widen out into lily-covered ponds where the moose wades and feeds, and in places the ancient building of the beaver has blocked their course with meadows. Each spring the salmon, running up from the ocean to spawn, stem the rapids of these rivers and leap their waterfalls, and the angler will find the brook trout from the foam flecked pools of the lower reaches to the head streams far back in the bogs.

Along the shores of the bays are the scattered settlements of a fishing folk, hemmed in landward by the wilderness of evergreens. At one of these — the village of Barrington, just back of Cape Sable Island — I spent the past three summers. It was mid-June when we reached there and lilacs and horsechestnuts were in bloom in the dooryards; a week or so later the air was sweet with the blossoms of the May or English hawthorn, hedges of which had been planted about some of the old houses. This renewal of the spring was very pleasing to us who had come from the early summer of southeastern Pennsylvania. Back in the woods we traced the footprints of spring where the dainty twin flower (*Linnæa*) showed in patches of faint rosy bloom above the moss. The dense thickets of Labrador tea (*Ledum*) and Rhodora, that grew along the boggy waysides, were in blossom, and here and there the chokeberry (*Prunus virginiana*) showed its flowers. In old clearings a profusion of wild strawberries were slowly ripening. The white flowers of the bunchberry (*Cornus canadensis*), the chickweed wintergreen (*Trientalis*), and the two-leaved solomon's seal (*Unifolium*) showed everywhere through the woods. The undergrowth of this region, except where dense forests of balsam fir had excluded sunlight, was for the most part made up of brake (*Pteris*), bayberry (*Myrica*), sheep laurel (*Kalmia angustifolia*), and blueberry bushes (*Vaccinium canadense* and *V. pennsylvanicum*).

During these June days and through the first half of July the land was ringing with bird songs. Along the village highway, from every piece of garden shrubbery, every patch of swamp tangle and thicket came the sweet, homely notes of Song Sparrows, Maryland Yellow-throats, and Summer Warblers. In the woods back of the village the loud, clear whistle of the White-throated Sparrow, calling *Old Sam Peabody-Peabody-Peabody*, struck the keynote of all that was wild and delectable in these solitudes. The song of the Olive-backed Thrush sounded far and near over the tree tops and across clearings, while from all about the woods came the dry, monotonous ditty of the Black-throated Green Warbler. These three songs were the dominant notes of the woodland. This is far from saying that other bird notes were not appreciably present to the attentive ear. The rapid chipping song of the Junco, the tiny tin trumpet of the Canada Nuthatch, the wiry notes of the Hudsonian Chickadee, the screeching calls of wandering Whiskey Jacks, to say nothing of the more familiar notes of Robins, Flickers, and Crows, all these and others fell upon the ear with more or less frequency, but back in the woods from dawn to sunset, you were rarely if ever out of hearing of some Peabody song, some Olive-backed Thrush, or some member of the ubiquitous and tireless tribe of Vireos.

For several reasons I have not attempted to present the birds of this interesting region in the form of a list of species. In the first place I was only a casual observer of the birds during three summers and only an indifferent collector during my third and last sojourn. In the second place the bird fauna of the region is already well known, and a list at the hands of one who took life easy would necessarily be imperfect. What I have tried to do is to record my impressions of the bird life as a whole and what facts fell in my way that related to certain birds in particular.

The shores of Barrington Bay are largely tide-washed beaches of coarse gravel, loose rocks, and bowlders covered with brown rock weed. The ebbing tide lays bare extensive 'flats' of eel grass and exposes numerous ledges on which many harbor seals gather to sun themselves. Here and there a bar of sand affords a haunt for the restless flocks of shore birds, while the Herring Gulls and the Terns settle in long rows on these sand strips at

low water, their white breasts glistening in the sunlight. While at Barrington I saw an occasional Black-backed Gull. Some years before (1897) I visited a gull rookery at Cape Split where the waters of the Bay of Fundy spread into the Basin of Minas, a point much farther north than Barrington. Here the 'Coffin-carrier' was quite abundant and nested in the colonies of Herring Gulls on the narrow basaltic edges of the high Cape wall. In the clefts and crannies of this rocky wall many wild roses were in bloom which added a charming effect to the scene. I saw the two species feeding together; a number of gulls would swim in a wide circle, apparently 'rounding up' their prey, while several individuals in the center were actively engaged in diving after the fish. When seemingly satisfied the divers would drop back into the circle of swimmers and others would take their turn at diving and feeding. As far as I have been able to learn this rookery at Cape Split is one of the most southerly breeding places of the great Black-backed Gull, which is at home with the Ice Gulls and Kittiwakes of Baffin Bay.

The terns, or 'Mackerel Gulls,' as they are called by the fishermen, are reasonably abundant in Barrington Bay and probably breed on the shingle and sand beaches of Cape Island. All that I saw appeared to belong to the common species—Wilson's Tern.

The Black Duck was the only species of its kind that bred in this part of Nova Scotia; its favorite nesting haunts were the bogs about lake shores and it was fairly abundant in these situations during the early part of the summer.

One of the most conspicuous inhabitants of the tidal marshes, that formed wide stretches of shore land in many places along the bay, was the Willet. These birds nest on the inland border of the marsh where the swampy undergrowth of woods met the salt grass. I had no success in finding nests and was probably too late in the season. Fully fledged young birds were about early in July; one of these was shot by my son with an air rifle. The old birds were noisy and vigilant until midsummer, when they disappeared from these haunts and in small flocks frequented the mud flats and beaches at low water. Earlier in the summer, as we tramped along the inner edge of the marsh, or skirted its outer edge in a boat, the shrill *pill-will-willet* call was sure to greet us; one or

more individuals would follow, hovering with dangling legs on broad, outstretched wing, close at hand, or perched on some stake or the top of a spruce tree, restless, uneasy, and vociferous until we had gotten well away from the devoted spot.

Certain birds were remarkable for their scarcity, though abundant enough in other sections of the country. I saw but few Chimney Swifts during my three visits; this is undoubtedly due to the fact that most of the chimneys are small and are more or less continually in use during the summer. The Kingbird, save in one instance, was not observed about Barrington until the latter part of the summer when it appeared sparingly in old fields bordering the salt marshes and shores. In the extensive apple orchards about the Basin of Minas I found these birds nesting in 1897 — and they were fairly abundant. The majority of the Kingbird population undoubtedly finds more congenial nesting sites in the agricultural portions of the Province, and the birds appear in the wilder tracts of the southern part only after the breeding season. The same observations are true of the Bobolink. I found this bird nesting abundantly in the lush grass meadows of the Habitent that flows through an old Acadian dyke into the Basin of Minas, but only saw one individual during my three summers' stay at Barrington; a male bird in changing plumage, which I secured on July 30, 1903.

The only flycatcher aside from the Kingbird that I found at Barrington was the Alder Flycatcher (*Empidonax traillii alnorum*). Most of the individuals seen were low down in the dense growth of alders along a sparsely traveled road. The solicitous actions of several of these birds on August 8 betrayed the nearness of young. They kept well out of sight, only occasionally revealing themselves on the edge of the alders and all the while uttering a succession of piping chirps.

A small colony of Rusty Grackles frequented the inner edge of a salt marsh and several individuals were seen on June 17, 1902, in a fresh bog on Barrington River.

I had read Bradford Torrey's account of his hunt after Ravens in the country about Highlands, among the mountains of western North Carolina. I spent two summers at Highlands, and like Mr. Torrey had no success in meeting with this interesting bird. But

fortune changed when I visited Nova Scotia. Under date of July 11, 1901, is the following entry in my note book: "On the beach of a small island [in Barrington Bay] saw four Ravens. They were feeding on the head of a sheep. First heard the 'croak,' then saw the four large birds slowly take wing and flop heavily across the bay toward the further shore." There was no mistaking the ominous croak for the caw of a Crow. At first we thought it was the hoarse bark of a seal on the outer reefs. The Ravens took a direction quite different from that which the Crows took when leaving this small island. The Crows were numerous all about the bay and would fly to the nearest point of the main land, but these Ravens steered for a wild tract of woodland on the farther side of the bay which I afterwards learned was known to be a haunt of the weird bird. During the following summer (1902) I again heard the Raven's croak, several times, from the heavily timbered ridges about the less frequented parts of Shelburne Harbor.

Some northern members of the finch family were at home in this evergreen wilderness; birds which, until my visits to Nova Scotia, I had never seen alive before. One of these was the Pine Grosbeak.

All that I had read and heard from those who had observed the bird during its occasional winter wanderings to more southern latitudes led me to believe that it was almost foolishly tame and unsuspicious. In its breeding grounds, however, I found it just the reverse. The bird was far oftener heard than seen, and always appeared shy. The clear, loud whistling song would sound for long distances over the woods and open savannas. Every little while during the day one or more of these birds would be singing from the top of some tall spruce or fir. After delivering its song for some time the bird, when undisturbed, would suddenly fly down into the dense cover of the woods, but if suspicious of an intruder into its haunts it would frequently fly a long distance from the spot. Like the Goldfinch, the Pine Siskin, the Crossbills and others of its tribe, the Pine Grosbeak often utters its whistling notes while on the wing At first I used to think of this song as resembling that of the Goldfinch, only of greater magnitude, but later I came to recognize a quality in it that was

strangely suggestive of the whistle of the Greater Yellowlegs (*Totanus melanoleucus*).

From time to time we would fall in with wandering flocks of Crossbills, the dipping flight and twittering notes on the wing calling to mind the Goldfinch. They appeared to be exceedingly irregular in their movements, disappearing from a locality for days at a time. In the summer of 1901 I saw them first on July 7, and after that more or less frequently during my stay of three months. I have seen those birds feeding in the public road like English Sparrows. The past summer (1903) I did not see or hear Crossbills until the 13th of August. After that they appeared irregularly. Many of the birds were young and a few individuals of the White-winged species were mixed in with the flocks. The birds seemed stupid in their tameness. I fired three or four times into a flock that had settled in a black spruce, the birds busy shelling the cones, without causing any disturbance to the majority, which continued to feed unconcernedly. These flocks are eminently restless, sweeping about over the tree tops with their constantly uttered *tweet-tweet.*

Another finch of exceedingly irregular distribution locally was the Pine Siskin. I frequently heard its canary-like song during the latter part of the summer of 1901 and saw the birds a number of times. In 1902 I saw several individuals on the 18th of June, but never afterwards. Last summer the bird was conspicuous by its absence in the neighborhood of Barrington, and was seen only once, in the early part of September.

The Purple Finch was fairly abundant and its rolling carol was one of the charming songs of these woodlands. At Bedford Basin, near Halifax, N. S., where I spent one summer, this bird frequented the neighborhood of houses, like its western cousin. I have seen two males almost within hand reach of my window trying to outrival each other in singing.

The Acadian Sharp-tailed Finch (*Ammodramus caudacutus subvirgatus*) was an inhabitant of the tidal marshes about Barrington. The bird's notes are like the noise made by sucking in through the teeth, a wet sound that savors of the oozy marsh.

During the first two summers I had my mind set on finding Lincoln's Sparrow. It was not until last summer, however, that I

came upon the bird. My wife and I had wandered far back in a boggy savanna after blueberries — the largest berries I think I have ever seen — and growing weary of picking I took up the gun and began poking along the edge of a dense clump of bushes. Presently a bird showed itself and on being shot proved to be a young male Lincoln's Sparrow. This was on August 29, and a day or two later I secured another young individual in the same locality. Whether the birds breed in this region I am not prepared to say. The two individuals secured, though evidently not long out of the nest, may have been migrants from farther North.

The Red-eyed and Solitary Vireos were the only two species of their kind that I found about Barrington. The Hudsonian Chickadee was common everywhere through the spruce and fir woods and the Black-capped Chickadee was also fairly abundant, though far less so than the Hudsonian species. Golden-crowned Kinglets were frequently heard all through the summer, and Red-breasted Nuthatches were about as common.

Among wood warblers the Black-throated Green, the Maryland Yellow-throat, the Myrtle, and the Black and Yellow were by far the most abundant; the Black and White Warbler and the Redstart were not uncommon. The Chestnut-sided and the Yellow Palm Warblers were also observed. The Oven-bird was oftener heard than seen, and one Wilson's Black-capped Warbler was taken toward the end of the summer. A pair of Nashville Warblers were seen on the edge of an alder and tamarack swamp on the 27th of July, and several others were heard at the same time; one male was secured.

The Cliff Swallows had established colonies under the eaves of a number of the barns in the village. On my first visit I noticed a rather odd departure in the housekeeping habits of the Tree Swallows. A pair of these birds had taken up their residence in a deserted Cliff Swallow's mud house on the lintel over a cottage door. Probably the Cliff Swallows found communal life more to their liking and deserted the solitary dwelling to join some nearby colony.

Young Robins, just out of the nest and not yet able to fly, were found on the 22nd of August, which struck me as rather a late date for Robin fledglings. One cause of these delayed broods is

probably the great abundance of berries in the late summer on which the young birds are fed.

The two species of the *Hylocichla* group of Thrushes which I found in this part of Nova Scotia, presented some interesting facts in local distribution. On the west side of Barrington Bay I found the Olive-backed Thrush the predominant species, while on the eastern side, the Hermit was the only one noticed. I cannot account for this on any other ground than the tendency of individuals of the same species to congregate in the same area. My observations lead me to believe that the Olive-backed Thrush is the shyer of the two. I saw the Hermit a number of times close to dwellings and it seemed to choose the more open woodland tracts, while the Olive-backed Thrush frequented the heavier growth along the edge of clearings. I have approached quite close to the Hermit and listened to his matchless song delivered from a fallen tree or stump in the clearings at noon-day, but the Olive-backed Thrush was always difficult to approach, and so far as my observations go, is a much wilder bird in its habits. Its favorite post when singing is near the top of some tall spruce or fir; the bird diving into the undergrowth on the slightest suspicion of an intruder.

The song of the Olive-backed Thrush seemed to me to be inferior to that of the Hermit; it starts out well but is finished in a series of squeaky notes. My ear for music, however, is uncultivated and I am told by those who have a good ear that the Olive-backed Thrush is really the better performer of the two. The Hermit's song appealed to me as a sustained melody throughout; as though the musician had the ear to appreciate as well as the power to express. Aside from their relative merits as musicians both birds are charming songsters, voicing the very spirit of wilderness solitudes.

The alarm notes of the two species are quite different. The Olive-backed Thrush when disturbed utters a metallic note, short and sharp, often ending in a curious rolling, querulous call. This note is uttered constantly while the bird is fidgeting about in the cover near by. I have several times mistaken these short *pucking* notes of the Olive-backed Thrush for the alarm calls of the Ruffed Grouse to her scattering brood. The alarm note of the Hermit has a Catbird quality about it, lower pitched and less

metallic than that of the Olive-backed Thrush. On the 10th of August I found a Hermit calling to her brood in the undergrowth with a low cluck that was instantly changed to the alarm note when my presence became known.

On the wooded slopes about Shelburne Harbor the Hermit Thrush was apparently abundant. In the hush of the long twilight we would drift far out toward the edge of burnished water, listening to the vesper strains of some late singer that came with infinite sweetness out of the gathering gloom of the farther shore.

THE EXALTATION OF THE SUBSPECIES.

BY JONATHAN DWIGHT, JR., M. D.

WHATEVER may be the intrinsic worth of the subspecies, signs are not wanting, at the present time, that its value, especially in the domain of ornithology, is impaired by the undue prominence which it has attained. Some of us hold it so close to the eye that all fields beyond are obscured and the one near object becomes not a part of ornithology but the aim and end of all our research. Our efforts are so one-sided that minute variations of dimension or color are magnified by their very proximity until they afford foothold for the rising flood of names that threatens to undermine the very foundations of trinomial nomenclature. It seems to be forgotten that the subspecies is only a *convenient* recognition of geographical variation within the limits of the species. Its rise began when the distribution of the species of many parts of the globe had been thoroughly determined, and systematists welcomed it as a new and useful outlet for activity. Since that time down to the present, the dividing and re-dividing of old species into geographical races or subspecies has gone on apace — not as a matter of making two blades of grass grow where one grew before but of splitting the one blade.

The luxuriant growth of the subspecies, while unquestionably